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EXAMINER

VUONG, JASON DUY ANH

ART UNIT PAPER NUMBER

2626

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/837,801	Applicant(s) THIERET, TRACY E.	
	Examiner Jason D. A. Vuong	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/15/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. **Claim 16** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The use of a gloss-meter sensor in such a calibration system cited in **Claim 16** is claimed to measure the glossiness in the developed image, but the specification does not teach such use. The specification only teaches the use of such sensor for measuring glossiness at the output image, not the developed image (refer specifically to Page 10, Lines 2-4).

Without additional details, one of ordinary skill in the art would not have been burdened by undue experimentation to make or use the claimed invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 19** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites the limitation "the image processor" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 14, 15** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,384,918 B1 to Hubble, III et al.

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Regarding Claim 1, a method of calibrating a printing system suitable for forming an output image representative of an input image (see Figure 5 for illustration of such method and printing system), said method comprising:

- forming and printing an output image on a support sheet (see Figure 5, Element 30);
- detecting an image quality parameter within a predetermined area of the output image (Hubble's method is to detect an image quality parameter within the entire output image. Refer to Column 12, Lines 48-52);
- automatically controlling (see Figure 5, Element 100) a process station (see Figure 5, Elements 41, 42A, 42B, 42C) in the printing system as a function of the image quality parameter (see Figure 5, dashed lines represent the controller automatically controls the process stations) determined in said detecting step.

Regarding Claim 2, the method of Claim 1, wherein the image quality parameter comprises the color coordinates of the output image (refer to Column 3, Lines 35-42. The claimed "coordinates" can be read on the location in color space of the "true" color).

Regarding Claim 3, the method of Claim 2, wherein the color coordinates in the output image are detected using a spectrophotometer (also refer to Column 16, Lines 62-64, and Element 12 of Figure 5).

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Regarding Claim 4, the method of Claim 3, wherein the spectrophotometer senses a range of color coordinates in the output image (refer to Column 17, Lines 6-14, and also Figure 3).

Regarding Claim 5, the method of Claim 1, wherein the process station comprises a look-up table for determining a color toner formula (refer to Column 13, Lines 49-54, and Column 7, Lines 44 and 47).

Regarding Claim 6, the method of Claim 5, wherein the step of controlling includes modifying an entry of the look-up table (also refer to Column 13, Lines 49-54, and Column 7, Lines 44-46).

Regarding Claim 7, the method of Claim 1, wherein the step of forming an output image further comprises selecting a predetermined area to be detected (refer to Figure 4, and Column 12, Lines 48-52).

Regarding Claim 9, a process control system for calibrating a printing system comprising (see Figure 5):

- an image forming system for forming a developed image (see Figure 5, and also refer to Column 12, Lines 7-10);

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- a support sheet (see Figure 5, Elements 30 and 36) for receiving the developed image to form an output image representative of an input image (see Column 12, Lines 10-12);
- an image quality sensor (see Figure 5, Element 12) for measuring an image quality parameter of the output image on the support sheet and generating a signal representative of said image quality parameter (refer to Column 12, Lines 24-29).

Regarding Claim 10, the system of Claim 9, further comprising an image controller for calibrating a process station as a function of the signal generated by the image quality sensor (see Figure 5, Elements 100, 41, 42A, 42B, 42C, and also Column 12, Lines 24-29).

Regarding Claim 11, the system of Claim 10, wherein the sensor comprises a spectrophotometer for measuring color coordinates in the output image (see Figure 5, Element 12).

Regarding Claim 14, the system of Claim 11, wherein the process station comprises a look-up table for determining a color toner formula (refer to Column 7, Lines 41-49).

Regarding **Claim 15**, the system of **Claim 14**, wherein the controller modifies an entry of the look-up table to comprise a new color toner formula (also refer to Column 7, Lines 41-49).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 8, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,384,918 to Hubble, III et al.

Regarding **Claims 8, and 20**, according to Hubble, other systems in the prior art can move a sensor to the predetermined area of the output image (refer to Column 12, Lines 53-55).

Therefore, it would have been obvious for one skilled in the art to move a sensor to the predetermined area of the output image; the motivation to move a sensor to a particular area of the output image is to take advantage of varying information in the printed document as a source of print quality control, and to sample and verify a wide range of color combinations.

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5. **Claims 12, 13, 17, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubble in view of U.S. Patent Publication No. 2002/0033454 A1 to Cheng et al.

Regarding **Claim 12**, the system of **Claim 10**, wherein the sensor is movable along a predetermined path.

Hubble's invention does not use a movable sensor. Instead, a fixed sensor is used (see Figure 5, Element 12).

However, Cheng discloses the use of a sensor that is movable along a predetermined path (refer to Page 14, Paragraph [0130], Last 4 Lines).

Therefore, it would have been obvious for one skilled in the art to replace Hubble's fixed sensor with Cheng's movable sensor; the motivation to make such a replacement is that the movable sensor offers greater flexibility in scanning different regions of the image, and also maximizes the ability of the control system to examine and verify a range of colors in the image. Further, there are really only three alternatives, which are all well known and effectively equivalent in that the document and the sensor are moved relative to one another to allow different parts of the document to be measured. The three alternatives are listed below:

- Move the sensor while the document is held still

- Hold the sensor in place while the document is moved
- Move both the sensor and the document

Regarding Claim 13, the system of Claim 12, wherein the image controller directs the sensor to a plurality of positions along the predetermined path so as to measure a range of image quality parameters.

Hubble's invention discloses a controller (Figure 5, Element 100) that controls the sensor (Figure 5, Element 12), but the controller does not direct the sensor to a plurality of positions to measure image quality parameters.

However, Cheng discloses a sensor that can move to a plurality of positions (refer to Page 14, Paragraph [0130], Last 4 Lines) along the determined path, and the sensor's movement is controlled by a controller (see Figure 1, Element 130).

Therefore, it would have been obvious for one skilled in the art to replace Hubble's fixed sensor with Cheng's combination of a controller and a movable sensor which can move to different places along the predetermined path; the motivation to make such a replacement is that the movable sensor can maximize the ability of the control system to examine and verify a range of colors in the image.

Regarding Claim 17, Hubble uncovers a process control system for calibrating a printing system suitable for forming an output image representative of an input image (see Figure 5), but he uses a non-movable image quality sensor for measuring an image quality parameter in an image (see Figure 5, Element 12).

Cheng, however, discloses the use of a movable assembly, which houses one or more image sensors in his invention (see Figure 1, Element 124).

Therefore it would have been obvious for one skilled in the art to use Cheng's movable assembly to house Hubble's image quality sensors; the motivation to do so is to measure selected regions of a document, which contains data of interest. Further, there are really only three alternatives, which are all well known and effectively equivalent in that the document and the sensor are moved relative to one another to allow different parts of the document to be measured. The three alternatives are listed below:

- Move the sensor while the document is held still
- Hold the sensor in place while the document is moved
- Move both the sensor and the document

Regarding Claim 19, although Hubble discloses a control system that controls a sensor, his sensor is non-movable.

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Cheng, however, discloses a movable assembly, which houses a couple of sensors (see Figure 1, Element 124), and is controlled by a controller (see Figure 1, Element 130).

Therefore it would have been obvious for one skilled in the art to use Cheng's movable assembly to house Hubble's image quality sensors; the motivation to do so is to measure selected regions of a document, which contains data of interest. Further, there are really only three alternatives, which are all well known and effectively equivalent in that the document and the sensor are moved relative to one another to allow different parts of the document to be measured. The three alternatives are listed below:

- Move the sensor while the document is held still
- Hold the sensor in place while the document is moved
- Move both the sensor and the document

6. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubble in view of U.S. Patent No. 5,748,221 to Castelli et al.

Regarding Claim 16, the system of **Claim 10**, wherein the sensor comprises a gloss-meter for measuring glossiness in the developed image.

Hubble's invention does not use a gloss-meter for measuring glossiness at all.

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Castelli reveals a gloss detector in his invention (refer to Column 6, Lines 56-57), but this gloss detector is affixed at the output path (see Figure 6, Element 100). In order for the detector to measure glossiness in the developed image, the detector has to be mounted or affixed near the photoreceptor belt, and it would have been obvious for one skilled in the art to mount the detector near the photoreceptor belt.

Therefore it would have been obvious for one skilled in the art to place a gloss detector, as described in Castelli's invention, near the photoreceptor belt; the motivation to do so is to be able to measure and correct any gloss-related errors before the image is printed on a support sheet, and also to limit wasting of customer consumables.

7. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hubble in view of Cheng as applied to **Claims 12, 13, 17, and 19** above, and further in view of U.S. Patent No. 4,986,526 to Dastin.

Regarding Claim 18, the process control system of Claim 17 does not have an image processor for decomposing an input image and producing output data for rendering an output image by a printing engine.

However, Dastin discloses an Image Processing System (IPS, refer to Figure 1, Element 12), which is capable of decomposing an input image and producing output data for rendering an output image by a printing engine. The Raster Input Scanner

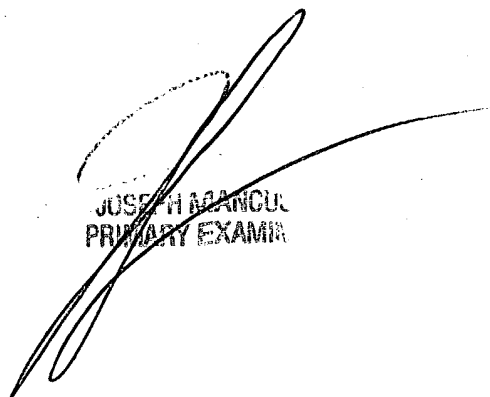
(RIS, refer to Figure 1, Element 10) captures an input image (refer to Figure 1, Element 38), and then the IPS directs the captured data of the input image to the Raster Output Scanner (ROS, refer to Figure 1, Element 16). The ROS then creates the output copy image. Refer to Column 3, Lines 54-68, and Column 4, Lines 1-9 for the details of Dustin's teaching of such operation.

Therefore it would have been obvious for one skilled in the art to incorporate the process control system of **Claim 17** with Dustin's invention of having an Image Processing System for decomposing an input image and producing output data for rendering an output image by a printing engine; the motivation of combining a calibration system which has a movable sensor with a printing system is to add flexibility to the calibration system so that image quality can be measured at different regions of an image.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see PTO Form 892).

Any inquiry concerning this communication should be directed to Jason Vuong at 703-306-4157.


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PRIMARY EXAMINER